

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF THE CLAIMS

1. (Currently Amended) A molding apparatus, comprising:
mold members [(12,14)] defining a plurality of mold cavities [(34,36)];
a first composition injector [(30)] fluidly connected to said plurality of mold cavities [(34,36)] for injection molding molded articles therein; and
a second composition injector [(32)] having a single nozzle [(64)] fluidly connected to each of said plurality of mold cavities [(34,36)] for in-mold coating said molded articles in said plurality of mold cavities, [(34,36)] said mold members [(12,14)] and said injectors [(30,32)] configured to injection mold and in-mold coat molded articles in said mold cavities [(34,36)] while said mold members [(12,14)] remain a fixed distance apart relative to one another during and between injection molding and in-mold coating.
2. (Currently Amended) The molding apparatus of claim 1 further including:
a sprue passageway [(38)] fluidly connected to said first composition injector [(30)]; and
a runner section [(40)] fluidly connected to said sprue passageway [(38)] and said plurality of mold cavities [(34,36)].
3. (Currently Amended) The molding apparatus of claim 2 wherein said runner section [(40)] includes a plurality of portions [(54,56)] fluidly connected to each of said plurality of mold cavities [(34,36)] at a plurality of inlet orifices [(58)].
4. (Currently Amended) The molding apparatus of claim 3 wherein said runner section [(40)] includes a tapered portion [(60)] adjacent each of said plurality of inlet orifices [(58)] for allowing relatively easy removal of thermoplastic material formed in said runner section [(40)] from said molded articles formed in said plurality of mold cavities [(34,36)].

5. (Currently Amended) The molding apparatus of ~~one of claim~~ 2~~[-4]~~ further including:

a second injector passageway ~~[(62)]~~ fluidly connected to said second composition injector ~~[(32)]~~ and said runner section ~~[(40)]~~, said second injector passageway ~~[(62)]~~ having a smaller cross-sectional area ~~[that]~~ than said runner section ~~[(40)]~~ adjacent an intersection ~~[(68)]~~ between said second injector passageway ~~[(62)]~~ and said runner section ~~[(40)]~~.

6. (Currently Amended) The molding apparatus of claim 5 wherein a portion of said runner section adjacent said intersection ~~[(68)]~~ is relatively flat.

7. (Currently Amended) The molding apparatus of ~~one of claim~~ 1~~[-6]~~ wherein each of said plurality of mold cavities ~~[(34,36)]~~ has a fixed volume that remains fixed when said at least one first composition injector injection molds said molded articles and when said at least one second composition injector in-mold coats said molded articles.

8. (Currently Amended) The molding apparatus of ~~one of claim~~ 2~~[-7]~~ wherein said runner section ~~[(40)]~~ includes a containment flange recess ~~[(40a)]~~ for forming a containment flange that directs in-mold coating injected from said second composition injector ~~[(32)]~~ toward said plurality of mold cavities ~~[(34,36)]~~.

9. (Currently Amended) The molding apparatus of ~~one of claim~~ 1~~[-9]~~ wherein said plurality of mold cavities ~~[(34,36)]~~ is fluidly connected to only a single first composition injector ~~[(30)]~~ and is fluidly connected to only a single second composition injector ~~[(32)]~~.

10. (Currently Amended) A molding apparatus, comprising:
mold members ~~[(12,14)]~~ defining a plurality of mold cavities ~~[(34,36)]~~;
a means ~~[(30)]~~ for injection molding molded articles in said plurality of mold cavities ~~[(34,36)]~~;
a means ~~[(32)]~~ for in-mold coating said molded articles in said plurality of mold cavities ~~[(34,36)]~~; and

a means [[[24)]]] for holding said mold members [[[12,14)]]] a fixed distance relative to one another during and between injection molding and in-mold coating of said molded articles.

11. (New) The molding apparatus of claim 10 wherein said means for injection molding is a first composition injector fluidly connected to said plurality of mold cavities and said means for in-mold coating is a second composition injector having a single nozzle connected to each of said plurality of mold cavities.

12. (New) The molding apparatus of claim 11 further including:
a sprue passageway fluidly connected to said first composition injector; and
a runner section fluidly connected to said sprue passageway and said plurality of mold cavities, said runner section fluidly connected to each of said mold cavities through inlet orifices.

13. (New) The molding apparatus of claim 12 further including tapered portions on said runner sections adjacent each of said inlet orifices.

14. (New) The molding apparatus of claim 12 further including a second injector passageway fluidly connected to said second composition injector and said runner section, said second injector passageway having a smaller cross-sectional area than said runner section adjacent an intersection between said second injector passageway and said runner section.

15. (New) The molding apparatus of claim 14 wherein said runner section is relatively flat adjacent said intersection.

16. (New) The molding apparatus of claim 12 wherein said runner section includes a containment flange recess which forms a containment flange when said first composition injector injection molds molded articles in said plurality of mold cavities.

17. (New) A method for injection molding and in-mold coating molded articles in a plurality of mold cavities, comprising:

injecting a molten first composition into a plurality of mold cavities defined by first and second mold members;

allowing said molten first composition to cool in said plurality of mold cavities to form molded articles therein; and

injecting an in-mold coating second composition from a single second composition injector into said plurality of mold cavities and onto said molded articles formed therein thereby in-mold coating said molded articles.

18. (New) The method of claim 17 wherein said first and second mold members remain a fixed distance relative to one another during and between said first composition being injected into said plurality of mold cavities and said second composition being injected into said plurality of mold cavities and onto said molded articles formed in said plurality of mold cavities.

19. (New) The method of claim 17 wherein each of said plurality of mold cavities has a fixed volume that remains fixed during and between said first composition being injected into said plurality of mold cavities and said second composition being injected into said plurality of mold cavities and onto said molded articles formed in said plurality of mold cavities.

JC20 Rec'd PCT/PTO 20 SEP 2005

Claims:

1. A molding apparatus, comprising:
mold members (12,14) defining a plurality of mold cavities (34,36);
a first composition injector (30) fluidly connected to said plurality of mold cavities (34,36) for injection molding molded articles therein; and
a second composition injector (32) having a single nozzle (64) fluidly connected to each of said plurality of mold cavities (34,36) for in-mold coating said molded articles in said plurality of mold cavities (34,36) said mold members (12,14) and said injectors (30,32) configured to injection mold and in-mold coat molded articles in said mold cavities (34,36) while said mold members (12,14) remain a fixed distance apart relative to one another during and between injection molding and in-mold coating..
2. The molding apparatus of claim 1 further including:
a sprue passageway (38) fluidly connected to said first composition injector (30);
and
a runner section (40) fluidly connected to said sprue passageway (38) and said plurality of mold cavities (34,36).
3. The molding apparatus of claim 2 wherein said runner section (40) includes a plurality of portions (54,56) fluidly connected to each of said plurality of mold cavities (34,36) at a plurality of inlet orifices (58).
4. The molding apparatus of claim 3 wherein said runner section (40) includes a tapered portion (60) adjacent each of said plurality of inlet orifices (58) for allowing relatively easy removal of thermoplastic material formed in said runner section (40) from said molded articles formed in said plurality of mold cavities (34,36).
5. The molding apparatus of one of claims 2-4 further including:
a second injector passageway (62) fluidly connected to said second composition injector (32) and said runner section (40), said second injector passageway (62) having

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a smaller cross-sectional area than said runner section (40) adjacent an intersection (68) between said second injector passageway (62) and said runner section (40).

6. The molding apparatus of claim 5 wherein a portion of said runner section adjacent said intersection (68) is relatively flat.

7. The molding apparatus of one of claims 1-6 wherein each of said plurality of mold cavities (34,36) has a fixed volume that remains fixed when said at least one first composition injector injection molds said molded articles and when said at least one second composition injector in-mold coats said molded articles.

8. The molding apparatus of one of claims 2-7 wherein said runner section (40) includes a containment flange recess (40a) for forming a containment flange that directs in-mold coating injected from said second composition injector (32) toward said plurality of mold cavities (34,36).

9. The molding apparatus of one of claims 1-9 wherein said plurality of mold cavities (34,36) is fluidly connected to only a single first composition injector (30) and is fluidly connected to only a single second composition injector (32).

10. A molding apparatus, comprising:
mold members (12,14) defining a plurality of mold cavities (34,36);
a means (30) for injection molding molded articles in said plurality of mold cavities (34,36);
a means (32) for in-mold coating said molded articles in said plurality of mold cavities (34,36); and
a means (24) for holding said mold members (12,14) a fixed distance relative to one another during and between injection molding and in-mold coating of said molded articles.

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Printed: 22-10-2004

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Claims:

1. A molding apparatus, comprising:
a mold (12,14) defining a plurality of nonrotatable mold cavities (34,36);
a first composition injector (30) fluidly connected to said plurality of mold cavities (34,36) for injection molding molded articles therein; and
a second composition injector (32) fluidly connected to each of said plurality of mold cavities (34,36) for in-mold coating said molded articles in said plurality of mold cavities (34,36).
2. The molding apparatus of claim 1 further including:
a sprue passageway (38) fluidly connected to said first composition injector (30);
and
a runner section (40) fluidly connected to said sprue passageway (38) and said plurality of mold cavities (34,36).
3. The molding apparatus of claim 2 wherein said runner section (40) includes a plurality of portions (54,56) fluidly connected to each of said plurality of mold cavities (34,36) at a plurality of inlet orifices (58).
4. The molding apparatus of claim 3 wherein said runner section (40) includes a tapered portion (60) adjacent each of said plurality of inlet orifices (58) for allowing relatively easy removal of thermoplastic material formed in said runner section (40) from said molded articles formed in said plurality of mold cavities (34,36).
5. The molding apparatus of one of claims 2-4 further including:
a second injector passageway (62) fluidly connected to said second composition injector (32) and said runner section (40), said second injector passageway (62) having a smaller cross-sectional area than said runner section (40) adjacent an intersection (68) between said second injector passageway (62) and said runner section (40).

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6. The molding apparatus of claim 5 wherein a portion of said runner section adjacent said intersection (68) is relatively flat.

7. The molding apparatus of one of claims 1-6 wherein each of said plurality of mold cavities (34,36) has a fixed volume that remains fixed when said at least one first composition injector injection molds said molded articles and when said at least one second composition injector in-mold coats said molded articles.

8. The molding apparatus of one of claims 2-7 wherein said runner section (40) includes a containment flange (40a) that directs in-mold coating injected from said second composition injector (32) toward said plurality of mold cavities (34,36).

9. The molding apparatus of one of claims 1-9 wherein said plurality of mold cavities (34,36) is fluidly connected to only a single first composition injector (30) and is fluidly connected to only a single second composition injector (32).

10. A molding apparatus, comprising:
a mold (12,14) defining a plurality of mold cavities (34,36);
a means (30) for injection molding molded articles in said plurality of mold cavities (34,36); and
a means (32) for in-mold coating said molded articles in said plurality of mold cavities (34,36).

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